

REMARKS

This amendment is responsive to the Office Action dated August 11, 2006. Applicant has amended claims 1, 2, 4, 7, and 8, and added new claims 17–25. Claims 1–25 are pending.

Claim Rejection Under 35 U.S.C. § 102

In the Office Action, the Examiner rejected claims 1, 3–6, 9–12 and 14–16 under 35 U.S.C. 102(b) as being anticipated by Kunz (US 6,127,989). Applicant respectfully traverses the rejection to the extent such rejection may be considered applicable to the amended claims. Kunz fails to disclose each and every feature of the claimed invention, as required by 35 U.S.C. 102(b), and provides no teaching that would have suggested the desirability of modification to include such features.

As one example, Kunz fails to teach or suggest a substantially-contiguous conductive shield positioned around the antenna, wherein the conductive shield has a width that extends in a plane parallel to the antenna such that the electromagnetic field at any region beyond the conductive shield is below a threshold level necessary for RFID communication, as required by amended claim 1.

Kunz describes an antenna coil structure having a peripheral metal ring for the purpose of protecting the antenna. In particular, Kunz states that protective ring 20 is provided “to protect elements of said integrated circuit against mechanical stress or corrosion.”¹ Kunz does not refer to protective ring 20 as a conductive shield, nor does Kunz state whether any shielding effects are even achieved by protective ring 20. Moreover, Kunz does not describe protective ring 20 as having a specified width that is related to a threshold level of the electromagnetic field produced by the antenna, as required by Applicant’s claims.

For example, Kunz specifically teaches that that “the antenna coil is insensitive to the presence of the protective ring,”² so protective ring 20 does not have an effect on the field associated with the antenna. Therefore, protective ring 20 fails to have a width that extends in the plane parallel to the antenna such that the electromagnetic field at any region beyond the

¹ Kunz, col. 1, ll. 49–51.

² Kunz, col. 1, ll. 54–55.

conductive shield is below a threshold for RFID communication. These specific structural elements of claim 1 are not suggested by the disclosure of Kunz.

In order to support an anticipation rejection under 35 U.S.C. 102(b), it is well established that a prior art reference must disclose each and every element of a claim. This well known rule of law is commonly referred to as the “all-elements rule.”³ If a prior art reference fails to disclose any element of a claim, then rejection under 35 U.S.C. 102(b) is improper.⁴

Kunz (US 6,127,989) fails to disclose each and every limitation set forth in independent claim 1. Of course, the claims dependent on independent claim 1, i.e., claims 1–16, incorporate all of the limitations of the respective base claims, and therefore are patentable for at least the reasons expressed above.

Moreover, the dependent claims recited a number of additional features that are likewise not suggested by Kunz. For example, claim 14 specifies that the antenna comprises a plurality of conductive loops to produce the electromagnetic field, and wherein the conductive loops are spaced apart at least a distance D that is selected based on a dimension of the RFID tags with which the antenna communicates. The Examiner stated that Kunz teaches this limitation at col. 1, ll. 28–34. Contrary to the Examiner’s assertion, Kunz fails to teach or suggest the features of claim 14. Instead, the cited passage of Kunz merely discusses that metal protective rings may form a parasitic short-circuit turn for elements within the turn (i.e., the antenna coil). Such a discussion provides no teaching of an antenna in which the spacing of loops of the antenna is selected based on a dimension of the RFID tags.

For at least these reasons, the Examiner has failed to establish a prima facie case for anticipation of Applicant’s claims 1, 3–6, 9–12 and 14–16 under 35 U.S.C. 102(b). Withdrawal of this rejection is requested.

³ See *Hybritech Inc. v. Monoclonal Antibodies, Inc.*, 802 F.2d 1367, 231 USPQ 81 (Fed. Cir. 1986) (“it is axiomatic that for prior art to anticipate under 102 it has to meet every element of the claimed invention”).

⁴ *Id.*; see also *Lewmar Marine, Inc. v. Barient, Inc.* 827 F.2d 744, 3 USPQ2d 1766 (Fed. Cir. 1987); *In re Bond*, 910 F.2d 831, 15 USPQ2d 1566 (CAFC 1990); *C.R. Bard, Inc. v. MP Systems, Inc.*, 157 F.3d 1340, 48 USPQ2d 1225 (CAFC 1998); *Oney v. Ratliff*, 182 F.3d 893, 51 USPQ2d 1697 (Fed. Cir. 1999); *Apple Computer, Inc. v. Articulate Systems, Inc.*, 234 F.3d 14, 57 USPQ2d 1057 (Fed. Cir. 2000).

Claim Rejection Under 35 U.S.C. § 103

Claims 2 and 13

In the Office Action, the Examiner rejected claims 2 and 13 under 35 U.S.C. 103(a) as being unpatentable over Kunz in view of Mejia et al. (US 6,700,547). Applicant respectfully traverses the rejection to the extent such rejections may be considered applicable to the claims as amended. The applied references fail to disclose or suggest the inventions defined by Applicant's claims, and provide no teaching that would have suggested the desirability of modification to arrive at the claimed invention.

In the Office Action, the Examiner acknowledged that Kunz fails to teach or suggest the features of claim 2. The Examiner stated that Mejia et al. teaches that a conductive shield shapes the electromagnetic field to extend in a direction substantially perpendicular to the antenna, and prevents the electromagnetic field from forming substantially over the conductive shield.⁵ Mejia et al. describes an interrogator antenna design having a single antenna with an inner and an outer coil as part of a walk-through corridor through which livestock having an attached transponder can be driven.⁶

In contrast to the Examiner's assertion, Mejia et al. does not even mention using a conductive shield with the antenna, let alone using a conductive shield having a width within the plane parallel to the antenna that shapes the electromagnetic field as recited in claim 2. Consequently, Mejia et al. fails to teach or suggest that the width of the conductive shield within the plane parallel to the antenna shapes the electromagnetic field to extend substantially in a direction perpendicular to the antenna, and prevents the electromagnetic field from forming substantially over the conductive shield, as required by claim 2 as amended.

With regard to claim 13, Mejia et al. provides no teachings sufficient to overcome the deficiencies of Kunz, as set forth above with respect to independent claim 1. Claim 13 is allowable for at least the reasons expressed above.

⁵ Office Action dated August 11, 2006, at page.

⁶ Mejia et al., Abstract.

Claims 7–8

In the Office Action, the Examiner rejected claims 7 and 8 under 35 U.S.C. 103(a) as being unpatentable over Kunz in view of Lee (US 6,307,517). Applicant respectfully traverses the rejection to the extent such rejections may be considered applicable to the claims as amended. The applied references fail to disclose or suggest the inventions defined by Applicant's claims, and provide no teaching that would have suggested the desirability of modification to arrive at the claimed invention.

Claim 7 recites that each of the conductive regions have respective widths extending outward from the antenna, and each of the widths are selected based at least in part on the threshold level of the magnetic field necessary for RFID communication between the antenna and the RFID tags. Claim 8 recites that each of the widths are selected to extend sufficiently in directions parallel to and outward from the antenna to prevent the electromagnetic field from forming in or above the conductive regions until the strength of the magnetic field reduces to below the threshold level. The Examiner cites Lee as teaching these features. However, contrary to the Examiner's assertion, the cited portion of Lee merely states that the overall performance of the RFID system depends on reader and transponder performance, and enumerates tolerances for antenna coil inductance, the resonating capacitor, and self-resonating frequency. Lee provides no teaching pertinent to selection of the widths of a conductive region of a substantially continuous conductive shield.

In fact, Lee fails to even describe or suggest positioning a substantially-contiguous conductive shield around the antenna. With respect to Lee, neither circuit board 110 nor plate 112 is a substantially-contiguous conductive shield positioned around the antenna. Circuit board 110 is an additional shield behind loop 104. Circuit board 110 provides no shielding of an electromagnetic shield from antenna 104. In addition, plate 112 of Lee is not a substantially-contiguous conductive shield positioned "around" the antenna. As can be seen in FIG. 1 of Lee, plate 112 is not positioned around antenna 104. Plate 112 is located behind antenna 104, at the back of reader 100. Therefore, Lee does not provide a description or motivation to provide a substantially-contiguous conductive shield positioned around the antenna, as required in claim 1, let alone the additional limitations recited by dependent claims 7 and 8.

It is well established that the Examiner bears the burden of establishing a prima facie case of obviousness.⁷ In doing so, the Examiner must determine whether the prior art provides a “teaching or suggestion to one of ordinary skill in the art to make the changes that would produce” the claimed invention.⁸ A prima facie case of obviousness is established only when this burden is met. Here, none of the references applied by the Examiner, taken individually or in combination, provides a such a teaching or suggestion of the limitations of Applicant’s claims as amended.

For at least these reasons, the Examiner has failed to establish a prima facie case for non-patentability of Applicant’s claims 2, 7, 8, and 13 under 35 U.S.C. 103(a). Withdrawal of this rejection is requested.

New Claims:

Applicant has added claims 17–25 to the pending application. The applied references fail to disclose or suggest the inventions defined by Applicant’s new claims, and provide no teaching that would have suggested the desirability of modification to arrive at the claimed inventions. As one example, the reference fail to disclose or suggest a method comprising providing an antenna that forms an electromagnetic field exceeding a threshold level necessary for communication with RFID tags, wherein the antenna has a substantially planar form, selecting a width of a substantially-contiguous conductive shield such that when the conductive shield is positioned around the antenna and within a plane parallel to the antenna, the electromagnetic field at any region beyond the conductive shield is below the threshold level, and positioning a substantially-contiguous conductive shield having the selected width around the antenna, as recited by independent claim 17. No new matter has been added by the new claims.

⁷ *In re Oetiker*, 24 USPQ2d 1443, 1445 (Fed. Cir. 1992).

⁸ *In re Chu*, 36 USPQ2d 1089, 1094 (Fed. Cir. 1995).

CONCLUSION

All claims in this application are in condition for allowance. Applicant respectfully requests reconsideration and prompt allowance of all pending claims. Please charge any additional fees or credit any overpayment to deposit account number 50-1778. The Examiner is invited to telephone the below-signed attorney to discuss this application.

Date:

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